

Informational Summary Report of Serious or Near Serious CAL FIRE Injuries, Illnesses and Accidents



GREEN SHEET

Burn Over/Firefighter Injury

July 5, 2018

Klamathon

18-SKU-004641

18-SKU-004672

California Northern Region

SUMMARY

On July 5, 2018, a CAL FIRE Type 3 Model 34 fire engine (E1) was conducting a mobile attack near the head of a vegetation fire to pick up spots. During the mobile attack a Fire Fighter 1 (FF1) suffered burn injuries to the face and elbow. While attempting to evacuate the burned firefighter from the area, the engine became high-centered, unable to move, and sustained damage from the fire. The FF1 was flown to a burn center. The Fire Captain (FC1) suffered a minor burn injury to the hand.

CONDITIONS

Weather: Red Flag Warning in effect

Temperature: 85°

Relative Humidity: 15%

Winds: South 21 mph / Gusting to 30 mph ESE to SW

Visibility: Poor, due to smoke conditions

Fuel Type: Fuel Model 1 sparse fuels to 12"-16" annual grasses

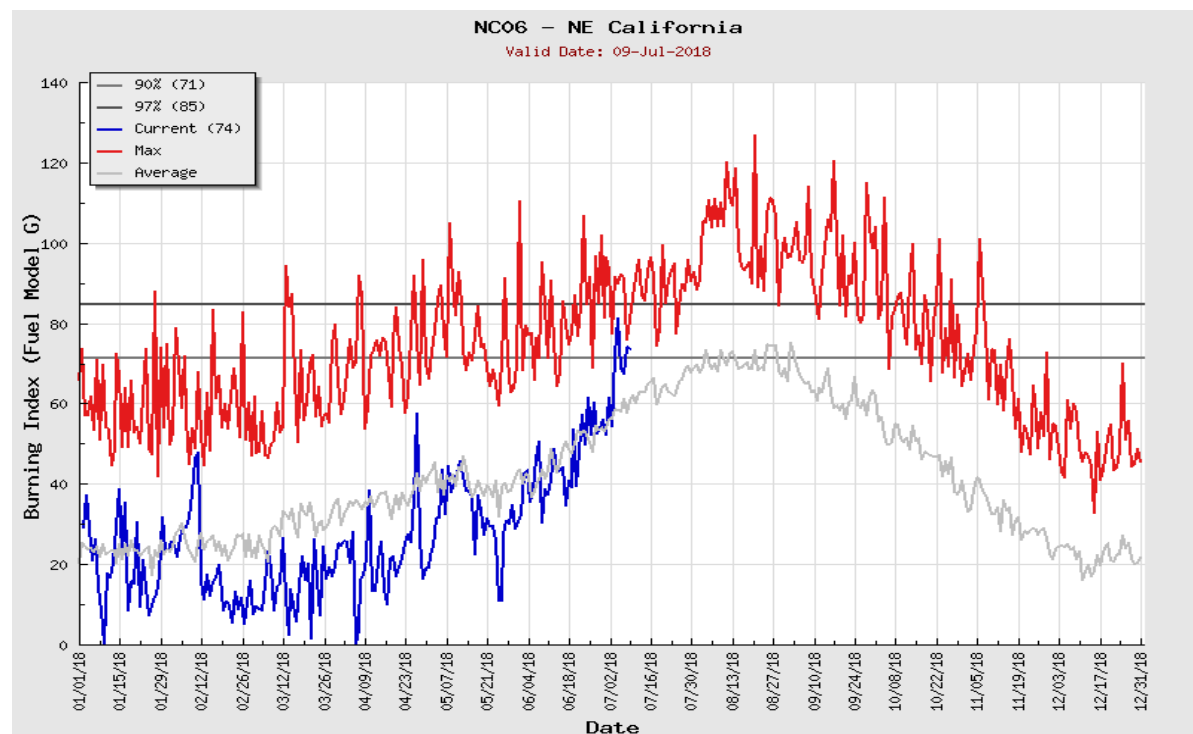
Topography: The incident occurred within a mile of where the Klamath River and Cottonwood Creek drainages intersect. The area has rolling hills with old mining ditches.

Road Conditions: Off road

Make/Model of Equipment: 2009 HME – International/CAL FIRE Model 34

Fire Behavior: Critical rates of spread with sheeting and spotting. The direction of fire spread would change with the erratic wind directions. Flame height was approximately 2-4' with sheeting depth of over 20'. The probability of ignition was 100%

The Burn Index (BI) was between the 90th and 97th percentile.



SEQUENCE OF EVENTS

On July 5, 2018, at approximately 12:30 PM, the Yreka Emergency Command Center (ECC) received reports of a vegetation fire in the vicinity of Klamathon Road and Anderson Grade, south of the community of Hornbrook in Siskiyou County, California.

At 2:01 PM, a CAL FIRE Type 3 fire engine (E1), staffed with a Fire Captain (FC1) and two Fire Fighter 1's (FF1 & FF2), responded to the fire as part of an augmented dispatch. E1 arrived at scene at 2:25 PM.

At 2:36 PM, per the Incident Commander (IC), the fire was established on the north side of the Klamath River. While suppressing spot fires, E1 was advised multiple spot fires were across Hornbrook Road. The IC directed E1 to re-deploy to Copco Road and Hornbrook Road on the north side of the Klamath River.

E1 accessed the fire by cutting a hole in a barbed wire fence between a residence and a commercial building in front of the advancing head of the fire. After establishing an anchor point, E1 began to mobile attack the advancing fire with FF1 on the front bumper hose and FF2 in the rear of E1 with the reel line. E1 mobile attacked the fire approximately 264 feet before breaking the front bumper hose. The crew deployed a new front bumper hose and E1 continued its mobile attack of the fire. E1 traveled approximately 639 feet before the front bumper hose broke again. FF1 and FC1 replaced the broken hose and FC1 re-entered E1.

At approximately 2:55 PM, FF1 began to suppress fire around E1. Due to a wind shift, the fire flared up significantly. Within 10 to 15 seconds of the flare up, E1, sitting stationary, ran out of tank water resulting in pressure loss in the front bumper hose. Simultaneously, FF2 was attempting to extinguish fire near the rear of E1 when FF2 lost pressure to the reel line. FF2 dropped the reel line and retreated into the black. The flare up caused burn injuries to FF1's partially unprotected face and protected elbow. FF1 did not have goggles on at the time of the burn injury.

Due to smoke and heat, FF1 was initially unable to make it into the cab of E1 and transmitted a "Mayday" while retreating to the black. As the heat and smoke cleared both firefighters were able to return to E1. FF1 entered E1 at the drivers' side rear passenger side and closed the door. With helmet removed, FF1 began to pour bottled water from the ice chest over their face to cool burns. FF2 secured the reel line and then entered E1 through the same door as FF1.

FC1 reported "Priority Traffic" to the IC on the tactical frequency. At 2:58 PM, the IC notified Yreka ECC a burn injury occurred on the incident and requested a ground ambulance and an air ambulance.

E1 attempted to exit the fire area, traveling approximately 899 feet from the burn injury site before becoming high centered in a drainage ditch. FC1 and both FF's exited the fire engine due to fire conditions and retreated to a large clearing around a residence. While exiting E1, FC1 became entangled in a barbed wire fence and fell forward to the ground. This fall resulted in FC1 suffering a minor burn to the hand. FC1 was not wearing the full Wildland Fire Protective Ensemble (WFPE).

At 3:08 PM, a CAL FIRE Prevention Officer picked up FF1 and transported FF1 to a ground ambulance. At 3:13 PM, the ground ambulance and the CAL FIRE Prevention Officer met at an I-5 rest area to transfer the patient. At 3:17 PM, the ground ambulance transported FF1 to a local hospital. FF1 was stabilized and then transported by air ambulance to a burn center. FC1 and FF2 were transported by a private citizen to a nearby staging area. They were then transported by a CAL FIRE employee to a local hospital for evaluation.

INJURIES/DAMAGES

FF1 suffered burns to the face, ears, and right elbow. FC1 suffered a minor burn to the hand.

E1 sustained damage to the under carriage when it became high centered. While immobilized, E1 also sustained major heat and structural damage from the brush around the fire engine that was burning.

FF2 was wearing the full WFPE and suffered no injuries.

SAFETY ISSUES FOR REVIEW

Reference the following Blue and Green Sheets pertaining to common denominators of fire behavior on tragedy and near-miss fires, adhering to The 10 Standard Fire Orders, and awareness of The 18 Situations that Shout "Watch Out":

Lessons Learned refer to "Use full Wildland Personal Protective Ensemble during active firefighting operations" [Policy 4305.1 \(II, C\)](#)

12/07/2017 - Inmate Fire Burn Injuries, Rye [Blue Sheet](#)

07/08/2017 - Firefighter Burn Injury, Parkfield Incident [Green Sheet](#)

12/30/2016 - Burn Injury, Pile Burning [Blue Sheet](#) - [Green Sheet](#)

07/12/2016 - Engine Burn Over, Pacheco Incident [Blue Sheet](#) - [Green Sheet](#)

08/13/2015 - Burn Injury, Marks Incident [Blue Sheet](#)

08/08/2014 - Lodge Complex Burnover [Blue Sheet](#) - [Green Sheet](#)

05/01/2013 - Near Miss, Summit Fire Burn Injury [Blue Sheet](#)

INCIDENTAL ISSUES/LESSONS LEARNED

1. Use all Wildland Fire Protective Ensemble (WFPE) during active firefighting operations.
2. Monitor water use and water tank levels during mobile attack.
3. Monitor Air-to-Ground frequencies at all times.

PHOTOS/SITE DIAGRAMS/MAPS

Aerial image of accident scene (pre-incident)



Aerial photograph of incident scene viewed looking toward east.

